Space Weather Forecast

Issued on Sunday, 14 November 2021 at 00:32 Local

This forecast provides a four day assessment of space weather events. The probabilities stated below are for reaching or exceeding the given levels. For more information about space weather impacts please see the Met Office Space Weather Scales https://www.metoffice.gov.uk/weather/learn-about/space-weather/uk-scales

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Space Weather Forecast Headline: Chance of G1/Minor Storm on Day 4 (17 Nov).

Analysis of Space Weather Activity over past 24 hours

Solar Activity: Solar Activity was Low, with one Common-class flare in the last 24 hours from a sunspot region in the southwest of the Sun's visible disc. There are two active sunspot regions on the Earth-facing Sun. The region in the southwest has faded somewhat in recent hours since giving the Common-class flare. The other region in the northwest continues to be a weak spot, with little activity. No Earth-directed coronal mass ejections (CMEs) were observed.

Solar Wind / Geomagnetic Activity: The solar wind speed was at slow levels varying between 310-370 km/s. The Interplanetary Magnetic Field was weak, with the north-south component varying weakly. Geomagnetic activity remained Quiet (Kp 0-1).

Energetic Particles / Solar Radiation: The count rate of energetic particles (high energy protons) remained at background with no solar radiation storms observed.

Four-Day Space Weather Forecast Summary

Solar Activity: Solar activity is expected to be Very Low to Low, with a slight chance of common class flares, primarily from the larger sunspot region in the southwest of the Earth-facing disc.

Solar Wind / Geomagnetic Activity: There are no Earth-directed CMEs. Slow solar wind speeds are expected through the next 3 days, with an increase to elevated levels likely on Day 4 (17 Nov) due to the fast wind from a coronal hole. Geomagnetic activity is expected to be mostly Quiet, perhaps Unsettled at times, increasing to Unsettled to Active with a chance of G1/Minor Storm with the arrival of the faster wind speeds on Day 4.

Energetic Particles / Solar Radiation: The count rate of energetic particles (high energy protons) is forecast to remain at background with no solar radiation storms occurring.

Issued by Met Office Space Weather Advisor, Tel: +44 (0) 330 135 4254 Email: moswoc@metoffice.gov.uk

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Geomagnetic Storms:

Geo-Magnetic Storm Probability (Exceedance)	Level	Past 24 Hours (Yes/No)	Day 1 (00-24 UTC) (%)	Day 2 (00-24 UTC) (%)	Day 3 (00-24 UTC) (%)	Day 4 (00-24 UTC) (%)
Minor or Moderate	G1 to G2	No	1	1	5	30
Strong	G3	No	1	1	1	1
Severe	G4	No	1	1	1	1
Extreme	G5	No	1	1	1	1

Radio Blackouts - X Ray Flares:

X Ray Flares Probability	Level	Past 24 Hours (Yes/No)	Day 1 (00-24 UTC) (%)	Day 2 (00-24 UTC) (%)	Day 3 (00-24 UTC) (%)	Day 4 (00-24 UTC) (%)
Active	R1-R2 M Class	No	1	1	1	1
Very Active	R3 to R5 X	No	1	1	1	1

Solar Radiation Storms - (High Energy Protons):

Radiation Storms Probability (Exceedance)	Level (cm^{-2} sr^{-1} s^{-1})	Past 24 Hours (Yes/No)	Day 1 (00-24 UTC) (%)	Day 2 (00-24 UTC) (%)	Day 3 (00-24 UTC) (%)	Day 4 (00-24 UTC) (%)
Active	≥ S1	No	1	1	1	1
Very Active	≥ S3 *	No	1	1	1	1

* S3 ≥ 10 MeV ≥ 1000 pfu and / or ≥ 50 MeV ≥ 10 pfu. (pfu = $cm^{-2}sr^{-1}s^{-1}$)

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